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09/840,290	04/24/2001	Tae-kyoung Kang	1568.1012	4369

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EXAMINER	
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ART UNIT	PAPER NUMBER
2879	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/840,290	Applicant(s) KANG ET AL.	
	Examiner Sikha Roy	Art Unit 2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for R ply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 April 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) *1-13,15-28,37* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13,15-28 and 37* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

The Amendment, filed on April 16, 2003 has been entered and is acknowledged by the Examiner.

Specification

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter of the non-light emitting zone filling portion having substantially a length of the outermost partition in claim 1. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 2, 3, 28, 37 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 5,754,003 to Murai et al.

Regarding claim 2 Murai discloses (Fig. 1 column 9 lines 27-67, column 10 lines 1-36) a plasma display panel 10 comprising a front glass substrate 12 and a rear glass substrate 14 coupled by a sealing material 36 (Fig. 3c), first and second electrodes (20,24) on opposing inner surfaces of the front and rear glass substrates crossing each other, a dielectric layer (22 and 26) on each of the opposing inner surfaces of the front and rear glass substrates covering the first and second electrodes, partitions walls 18 formed on the upper surface of the dielectric layer 26 of the rear glass substrate and extending lengthwise in a first direction, red, green and blue fluorescent material coated between the walls of the partitions and a non-light emitting zone filling portion 34 defined between the outermost partition and the sealing material 36 comprising material used for partitions , the outermost partition and the non-light emitting zone filling portion being substantially formed integrally.

Claim 3 essentially recites the same limitations as of claim 2 and Murai discloses the non-light emitting filling zone portion formed integral with the outermost partition fills the space completely between the sealing material and the outermost partition.

Regarding claim 28 Murai discloses (column 13 lines 44-46) inert gas (discharge gas such as He, Ne or Xe) is disposed within the discharge chambers in the plasma display panel.

Referring to claim 37 Murai discloses (Fig. 1) a plasma display panel comprising affront glass substrate having first electrodes 20 on which a first dielectric layer 22 is formed, a rear glass substrate disposed opposite to the front glass substrate having second electrodes 24 over which second dielectric layer 26 is formed, a seal 36

connecting corresponding edges of front and rear glass substrates, partitions 18 formed on the upper surface of the second dielectric layer, the outermost partitions extending to the seal and a fluorescent substance coated between each adjacent pair of partitions. The limitation reciting the outermost partition extending to the seal to prevent a discharge of the first electrodes in a space between the outermost partition and the seal is functional and inherently possessed by the structure in the prior art. It is elementary that mere recitation of a newly discovered function or property, inherently possessed by things in the prior art, does not cause a claim drawn to distinguish over the prior art. Additionally, where the Patent Office has reason to believe that a functional limitation asserted to be critical for establishing novelty in the claimed subject matter may, in fact, be an inherent characteristic of the prior art, it possesses the authority to require the applicant to prove that the subject matter shown to be in the prior art does not possess the characteristic relied on. Thus, the functional limitation of preventing discharge in th space between the outermost partition and the seal is taught by Murai under the principles of functional inherency.

Claims 4,15 and 16 are rejected under 35 U.S.C. 102(e) as being aniticipated by U.S. Patent 6,242,859 to Betsui et al.

Regarding claim 4 Betsui discloses (Fig. 10 column 5 lines 16-35, column 6 lines 1-10, 64-67, column 12 lines 35-50) a plasma display panel comprising a front glass substrate 10 and a rear glass substrate 20 coupled to each other by a sealing material 25 coated at edges of the front and rear glass substrates, first (11,12) electrodes and

second electrodes (A1, A2, A3 in Fig.1) on opposing inner surfaces of the front and rear glass substrates crossing each other, a dielectric layer (15 and 22) on each of the opposing inner surfaces of the front and rear glass substrates covering the first and second electrodes, partitions (ribs) 23 formed on the upper surface of the dielectric layer 22 of the rear glass substrate and extending lengthwise in a first direction, red, green and blue fluorescent material coated between the walls of the partitions and a non-light emitting zone (comprising the space after the peripheral partition 23 and the spacer 40) filling portion 40 defined between the outermost partition and the sealing material 25 comprising material used for partitions and having length in the first direction. Betsui further discloses in Fig.10 that the non-light emitting zone filling portion 40 covers the end portions of the first electrodes (11,12) formed on the front glass substrate 10.

Regarding claims 15 and 16 Betsui discloses all the limitations same as claim 4 and also the seal 25 is disposed such that at least one of the opposing ends of the each of the first electrode is disposed between the seal and the partitions.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 5,6,7 –13, 19-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,242,859 to Betsui et al.

Betsui discloses all the limitations of claim 1 which are ~~same as~~ similar to those of claim 4.

Regarding claim 1 Betsui fails to disclose explicitly the non-light emitting zone filling portion having substantially a length of the outermost partition in the first direction. It would have been an obvious matter of design choice to have the length of the non-light emitting zone filling portion same as that of the outermost partition and since applicant has not disclosed that this design is for any particular purpose. It appears that the invention would perform equally well with the length of the non-light emitting zone filling portion being greater than that of the outermost partitions as shown by Betsui.

Regarding claim 5 Betsui discloses a gas exhaust hole 26 formed on the rear surface of the non-light emitting zone filling portion.

Referring to claim 5 Betsui discloses the claimed invention except that the exhaust hole is formed at the upper surface of the non-light emitting zone filling portion parallel to lengthwise direction.

It would have been an obvious matter of design choice to have the exhaust hole formed parallel to lengthwise direction at the upper surface of the non-light emitting zone filling portion since applicant has not disclosed that this design is for any particular purpose. It appears that the invention would perform equally well with the exhaust hole formed at the rear surface of the non-light emitting zone filling portion as disclosed by Betsui.

Regarding claim 6, Betsui et al. do not disclose the limitation of the depth of the gas hole being in the range of 10 micrometer through 160 micrometer. It has been held

that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the depth of the exhaust hole within a range of 10μm through 160μm, since optimization of workable ranges is considered within the skill of the art.

Regarding claim 7 Betsui discloses all the limitations same as of claim 4.

Betsui discloses the claimed invention except for an empty space defined between the sealing material and the non-light emitting zone filling portion. It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the non-light emitting zone filling portion separate from the sealing portion with a space in between since it has been held that constructing a formerly integral structure in various elements involves only routine skill in the art.

Regarding claims 8 and 9 Betsui discloses in Fig. 10 that the non-light emitting zone filling portion covers the end of the first electrodes which extend past the outermost partition. Betsui does not disclose that the width of the non-light emitting zone filling portion being equal to (claim 8) or greater than (claim 9) the length of the end portions of the first electrodes.

Regarding claim 8 it would have been obvious to one of ordinary skill in the art at the time of invention to select the width of the non-light emitting zone filling portion to be equal to the length of the end portions of the first electrodes so that the non-light emitting zone filling portion covers the end portions of the first electrodes.

Regarding claim 9 it would have been obvious to one of ordinary skill in the art at the time of invention to select the width of the non-light emitting zone filling portion to be greater than the length of the end portions of the first electrodes so that the non-light emitting zone filling portion covers the end portions of the first electrodes.

Regarding claim 10, Betsui et al. disclose the claimed invention except for the limitation of sum of the widths of the non-light emitting zone filling portion and the outermost partition being 1.0 mm and length of the end portion of the first electrode covered by the outermost partition and non-light emitting zone filling portion being 0.3 mm . It has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. Thus, it would have been obvious to one of ordinary skills in the art at the time the invention was made to have the sum of the widths of the non-light emitting zone filling portion and the outermost partition 1.0 mm and length of the end portion of the first electrode covered by the outermost partition and non-light emitting zone filling portion 0.3 mm, since discovering an optimum value of a result variable is considered within the skills of the art.

Regarding claim 11 Betsui et al. disclose the claimed invention except for the limitation of the width of the empty space being less than 50μm when the first electrodes extend past the non-light emitting zone filling portion. It has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. Thus, it would have been obvious to one of ordinary skills in the art at the time the invention was made to have the width of the empty space less than 50μm when the first electrodes extend past the non-light emitting zone filling portion.

Claims 12 and 13 recite the same limitations as of claims 5 and 6 respectively and hence are rejected for the same reasons (see rejection of claims 5 and 6).

Regarding claim 19 a plasma display panel intrinsically has each of the first electrodes comprising of a terminal extending to the seal for outside electrical connection and a non-terminal end that does not extend to the seal (as is evidenced by U. S. Patent 5,909,261 to Seki et al. in Fig. 4). It is elementary that mere recitation of a newly discovered function or property, intrinsically possessed by things in the prior art, does not cause a claim drawn to distinguish over the prior art. Additionally, where the Patent Office has reason to believe that a functional limitation asserted to be critical for establishing novelty in the claimed subject matter may, in fact, be an intrinsic characteristic of the prior art, it possesses the authority to require the applicant to prove that the subject matter shown to be in the prior art does not possess the characteristic relied on. Thus, the functional limitation of terminal end extending to the seal and non-terminal end not extending to the seal is taught by Betsui et al. under intrinsic functional principles. Furthermore the non-light emitting zone filling portion and the outermost partition being outside the discharge area obviously covers the non-terminal end of the first electrodes.

Claim 20 essentially recites the same limitation as of claim11 and hence is rejected for the same reason (see rejection of claim 11).

Regarding claims 21 and 22 Betsui et al. disclose the non-terminal end of the first electrodes not extending to the seal and covered by the non-light emitting zone filling portion and the outermost partitions and hence it would have been obvious to one of

ordinary skill in the art at the time of invention to specify the two possible choices –i) non-terminal end past the outermost partition and not through the non-light emitting zone filling portion and ii) non-terminal end past through the outermost partition and the non-light emitting filling zone portion for preventing mis-discharge since it is known in the art that the first electrodes extend past the discharge area and the partitions contribute to the prevention of mis-discharges.

Regarding claim 23 Betsui et al. disclose the claimed invention except for the gas removal channel defined by the non-light emitting zone filling portion and the first dielectric layer. It would have been obvious matter of design choice to have the gas removal channel defined by the non-light emitting zone filling portion and the first dielectric layer since the applicants have not disclosed that this design is for any particular purpose and it appears that the invention would perform equally well with gas exhaust hole as disclosed by Betsui et al.

Claim 24 essentially recites the same limitation as of claim 5 and hence is rejected for the same reason (see rejection of claim 5).

Regarding claims 25 and 26 Betsui et al. disclose the claimed invention except for the gas removal channel (10 mm) defined by one half of the space (20 mm) between the outermost partition and the seal. It would have been obvious matter of design choice to have the gas removal channel defined by one half of the space between the outermost partition and the seal since the applicants have not disclosed that this design is for any particular purpose and it appears that the invention would perform equally well with gas exhaust hole as disclosed by Betsui et al.

Regarding claim 27, Betsui et al. disclose the claimed invention except for the limitation of another gas removal channel. It has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. It would have been obvious to one having ordinary skill in the art at the time the invention was made to include another gas removal channel for better gas removal, since mere duplication of essential parts of the invention is considered within the skill of the art.

Claims 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,754,003 to Murai et al.

Claim 17 recites the same limitations as of claim 2 and hence is rejected for the same reason. Murai also discloses the non-light emitting zone portion having slightly larger height than the partition wall 18. But it would have been obvious to specify the height of the non-light emitting zone portion being same as composite height of the partition wall and the height adjusting layer 32 (Fig. 3c).

Claim 18 essentially recites the same limitations of claim 17 and claim 3 and hence is rejected for the same reason.

Response to Arguments

Applicant's arguments with respect to claims 1, 4,7, 15, 17, 18 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sikha Roy whose telephone number is (703) 308-2826. The examiner can normally be reached on Monday-Friday 8:00 a.m. – 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (703) 305-4794. The fax phone number for the organization is (703) 308-7382.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

S. R.

Sikha Roy
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